1. A spin valve recording head, comprising:

a dielectric layer on a magnetic shield;

on said dielectric layer, a seed layer on which is a first antiferromagnetic layer;

on said first antiferromagnetic layer, a bottom spin valve pedestal, having outwardly sloping sidewalls, that further comprises a free layer on a non-magnetic spacer layer on a pinned layer on a second antiferromagnetic layer, said second antiferromagnetic layer being exchange coupled to the first antiferromagnetic layer;

on the sidewalls and the first antiferromagnetic layer, a layer of nickel chromium that is between about 10 and 100 Angstroms thick;

on said layer of nickel-chromium, a hard bias seed layer;

on said hard bias seed layer, a longitudinal hard bias layer; and

on the longitudinal hard bias layer, a conductive lead layer.

2. The spin valve recording head described in claim 1 wherein said layer of nickel chromium contains between about 55 and 65 atomic percent of nickel.

3. The spin valve recording head described in claim 1 wherein said antiferromagnetic layer is selected from the group consisting of MnPt, MnPdPt, IrMn, and NiMn.

4. The spin valve recording head described in claim 1 wherein said first antiferromagnetic layer has a thickness between about 50 and 300 Angstroms.

5. The spin valve recording head described in claim 1 wherein said longitudinal hard bias layer is selected from the group consisting of CoCrPt, CoPt, and CoCrTa.

6. The spin valve recording head described in claim 1 wherein said longitudinal hard bias layer has a thickness between about 100 and 500 Angstroms.

7. The spin valve recording head described in claim 1 wherein said hard bias seed layer is a laminate of tantalum and a metal selected from the group consisting of Cr, CrTi, and WTi.

8. The spin valve recording head described in claim 1 wherein said hard bias seed layer has a thickness between about 10 and 100 Angstroms.

9. The spin valve recording head described in claim 1 wherein the dielectric layer has a thickness between about 150 and 400 Angstroms.

10. A process for manufacturing a spin valve recording head, comprising:

providing a dielectric layer on a magnetic shield;

on said dielectric layer, depositing an antiferromagnetic layer;

in succession, depositing on said antiferromagnetic layer a pinned layer, a non-magnetic spacer layer, and a free layer, thereby forming a bottom spin valve stack;

on the free layer, forming an etch mask that defines a pedestal;

using said mask, etching the stack and under-cutting said mask until all unprotected parts of said free layer, spacer layer and pinned layer and about one half of said antiferromagnetic layer have been removed, thereby forming the pedestal, said pedestal having outwardly sloping sidewalls that extend from the free layer to the unremoved portion of the antiferromagnetic layer;

on the sidewalls, depositing a surface smoothing layer that is between about 10 and 100 Angstroms thick, said nickel-chromium serving as a surface smoothing agent;

on said smoothing layer, depositing a hard bias seed layer;

on said hard bias seed layer, depositing a longitudinal hard bias layer; and

on the longitudinal hard bias layer, depositing a conductive lead layer.

11. The process described in claim 10 wherein said smoothing layer is selected from the group consisting of NiCr, Ni, Fe, and Cr.

12. The process described in claim 11 wherein said NiCr layer contains between about 55 and 65 atomic percent of nickel.

13. The process described in claim 10 wherein said antiferromagnetic layer is selected from the group consisting of MnPt, MnPdPt, IrMn, and NiMn.

14. The process described in claim 10 wherein the antiferromagnetic layer is deposited to a thickness between about 100 and 300 Angstroms.

15. The process described in claim 10 wherein said longitudinal hard bias layer is selected from the group consisting of CoCrPt, CoPt, and CoCrTa.

16. The process described in claim 10 wherein said longitudinal hard bias layer is deposited to a thickness between about 100 and 500 Angstroms.

17. The process described in claim 10 wherein the step of depositing the hard bias underlayer is a laminate of tantalum and a metal selected from the group consisting of Cr, CrTi, and WTi.

18. The process described in claim 10 wherein said hard bias underlayer is deposited to a thickness between about 10 and 100 Angstroms.

19. The process described in claim 10 wherein the dielectric layer is deposited to a thickness between about 150 and 400 Angstroms.